



Applications of Remote Sensing and GIS to Solve Challenges in Autonomous Driving and Analyze Roadway Safety

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Message from the Guest Editors

Dear Colleagues,

The main challenge in autonomous vehicles has become to solve the critical and unique problems such as precise localization in snow–rain road conditions, generating accurate and large maps by SLAM technologies, far detection of construction areas for smooth path planning, maneuvering with the existence of unprotected turns, making a robust decision on classifying stationary vehicles as obstacles or temporarily stopped due to traffic jams and traffic signal recognition in sun glare. Remote sensing and image processing applications play the main role in designing optimal solutions based on sensory and observation data such as modeling the changes in the pattern distribution of LIDAR 3D point clouds in snowfall weather conditions and improving the localization accuracy by matching map observation environmental features. This Special Issue aims to add value to the autonomous vehicle research field by demonstrating and analyzing critical and unique problems of mapping, localization, perception and path-planning modules.

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